



College of Rehabilitation Sciences
Department of Physical Therapy

NEUROMUSCULOSKELETAL CLINICAL SKILLS LIST

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The following clinical skills have been taught primarily in the following courses: PT6100 Foundations of Physical Therapy, PT6124 Physical Therapy and Hospital-Based Care; PT6130 Applied Sciences for Physical Therapy 1, PT 6221 Clinical Skills for Physiotherapy for Neuromuscular Conditions 1, PT 6222 Clinical Skills for Physiotherapy for Neuromuscular Conditions 2, and PT 6230 Applied Sciences 2.

Assessment Skills

Students should be able to:

- Utilize effective communication with the client, family and health care team members incorporating awareness of sensitive practice issues and good body mechanics.
- Perform a comprehensive subjective examination of the spine and peripheral joints including non-surgical and surgical patients including history taking, special questions, and clinical reasoning to determine the objective examination procedures
- Perform a comprehensive objective examination of Neuromusculoskeletal, Integument and Vascular structures including:
 - Assessment of architectural design (posture)
 - Complete lumbar and cervical scanning examinations with all safety tests
 - Joint ROM (active and passive ROM including endfeel)
 - Muscle testing (manual muscle testing for strength measurement, muscle length testing and resisted selective tissue tension tests for differential diagnosis)
 - Directional stability testing for all peripheral joints as well as central and lateral spinal PA pressures, compression and traction
 - Articular signs, neurological signs (key muscle testing, dermatomes, deep tendon reflexes, Babinski, Hoffman's, and clonus upper motor neuron testing)
 - Static positional testing, PIVM's & PAVM's, PPM, PAM's
 - Compression and traction tests including craniovertebral directional stability testing and dizziness differentiation tests
 - Peripheral joint special tests and palpation of articular and soft tissue structures including a complete biomechanical exam
 - Integument – Skin and nail bed condition, wounds and swelling (volumetric and circumferential testing). Risk for skin breakdown (Braden Scale). Sensory testing includes: hot/cold, sharp/dull, light touch and monofilament protective response testing. Special attention to the integument and amputations.
 - Vascular tests – peripheral pulses, capillary filling and temperature, risk for DVT (Virchow's Triad).
 - Mobility: bed mobility, transfers, balance (Berg Balance Scale, Gait Speed, Timed up and Go, Mini BESTest Balance Scale, & Stork stand) and gait (with and without aid, with and without prosthesis)
 - Vital Signs: heart rate, respiratory rate, blood pressure (manual and automatic), pulse oximetry.

Treatment Skills

Students are expected to be knowledgeable about the rationale and safe application of the following modalities, treatment techniques and equipment:

- NMES, TENS, IFC, ultrasound, hot and cold packs
- Resistance training for healthy and pathological populations

- Stretching programs including passive stretch with or without hold relax, and home self-stretch instruction
- Mobilization graded I-IV with selected hold relax
- Soft tissue massage including trigger point massage, transverse friction massage and other basic strokes (effleurage, kneading, deep stroking etc.)
- Bed mobility, transfer, gait and balance training
- Post-surgical complication prevention: DB & C, Foot/ankle exercises, bed exercises to improve ROM and strength
- Swelling: long stretch bandaging, pneumatic compression pump, compression garments.
- Wound care: exposure only to debridement, wound dressings and setting up a sterile field.
- Universal precautions
- Posture education
- Supportive devices:
 - Gait aid prescription and instruction
 - Selective taping techniques
 - Sling and tensor application
- Techniques to Improve aerobic capacity and strength
- Health education and counseling: Lifestyle counseling on improving physical activity using Motivational Interviewing and the Five A's.